UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,069	12/02/2003	Stuart Antony Green	9052-168	4890

20792 7590 10/30/2008

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER	
DANG, HUNG Q	

ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
10/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/727,069	GREEN ET AL.	
	Examiner	Art Unit	
	Hung Q. Dang	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-33 and 36-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-33 and 36-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 08/08/2008 regarding Lamkin's teachings have been considered but are moot in view of new ground(s) of rejections.

Applicant's arguments filed 08/08/2008 have been considered but are not persuasive.

On page 9, Applicant argues, regarding Collar's teachings, "while the DVD data structures of Collar have navigational commands and commands for deriving a value (i.e. commands to invoke a random number generator), these are separate, independent commands, and cannot be said to comprise instructions forming a single command," and "further, the value derived from the commands to invoke a random generator does not vary according to the command invoked – the number derived is generated in exactly the same way for each command." In response, the Examiner respectfully disagrees. As shown in Fig. 2 of Collar reference, a PGC, which is the data representing a first video sequence is shown. This typical PGN contains program chain information (PGCI), which contains navigation commands and the order of the program and cell playback (see [0052]). The commands are pre-command and post-command, each of which comprises a plurality of instructions as typically shown in Figs. 9. For example, in Fig. 9a, there is at least three instructions LinkPGCN 2, LinkPGCN 3, and LinkPGCN 4, each of which links or jumps to a destination PGC respectively. Further, in lines Cmnd.11 and Cmnd.12, there are at least two instructions that are independent from the link instructions (LinkPGCN 3 and LinkPGCN 4, respectively), for deriving a

first value, which is a Boolean value of the comparison operations. This first value varies depending on the command because each time the command runs, depending on the values of the parameters of the command, the result could be different, which is either true (1) or false (0). Another instruction that derives the first value may be RND GPRM12 49 (denoted as 16) in Fig. 9a. Each time the pre-command runs, a different value is randomly generated. So it also depends on the command.

On page 10, Applicant argues Collar does not disclose, “a plurality of commands for navigating to the same location” and “the value does not depend on the command executed.” In response, the Examiner respectfully disagrees. First, the pre-command shown in Fig. 9a for PGC.2, has a first location indicated by LinkPGN 16 (“Cmnd.6=LinkPGN 16”). The pre-command for PGC.3 shown in Fig. 9c (“Cmnd.6=LinkPGN 16”) also has the same first location indicated by LinkPGN 16). Collar also discloses “the value does depend on the command executed.” For example, in PGC. 3 shown in Fig. 9c, the first value represented by GPRM12 is 32768 ANDed with GPRM 14 (see “Cmnd.2” and “Cmnd.3”) while in Fig. 9a, for PGC.2, the first value represented by GPRM12 is 32768 ANDed with GPRM13 (see “Cmnd.2” and “Cmnd.3”).

Claim Objections

Claims 17 and 32 are objected to because of the following informalities: Claims 17 and 32 recite "ar_i +b mod c”, which should be (ar_i +b) mod c as described in the specification (see page 8). Appropriate correction is required.

Claim 45 is objected to because it is drawn to a processing method without reciting any steps.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus staturoty. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.

… a signal does not fall within one of the four statutory classes of Sec. 101.

…. signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claims 18-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 18-33 is drawn to functional descriptive material recorded on a "computer-readable medium." Normally, the claims would be statutory. However, the specification, at page 4 defines the claimed computer-readable medium as encompassing statutory media such as a "ROM", "RAM", "EPROM", "CD-ROM", etc, as well as non-statutory subject matter such as a magnetic, optical, electromagnetic, infrared, … or propagation medium" and "paper or another suitable medium upon which the program is printed, etc."

A "magnetic, optical, electromagnetic, infrared, … or propagation medium" embodying functional descriptive material is neither a process nor a product, i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, a "magnetic, optical, electromagnetic, infrared, … or propagation medium" is a form of energy, in the absence of any physical structure or tangible material.

A piece of "paper" or "medium upon which the program is printed, etc." embodying functional descriptive material is neither a process nor a product, i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, a piece of "paper" or "medium upon which the program is printed, etc." is a form of printing articles, in the absence of any physical structure or tangible material.

Because the full scope of the claim as properly read in light of the disclosure encompasses non-statutory subject matter, the claim as a whole is non-statutory. The

Examiner suggests amending the claim to include the disclosed tangible computer readable media, while at the same time excluding the intangible media such as signals, carrier waves, etc. Any amendment to the claim should be commensurate with its corresponding disclosure.

Also, 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 42-44 and 46 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 42-44 recites an "audiovidual product," which, as evidenced from the specification at pages 6-7, comprises “computer programs”.

Claim 46 recites a "DVD product," which, as evidenced from the specification at pages 6-7, comprises “computer programs”.

However, this subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. A “computer program" does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

Accordingly, the examiner suggests amending the claim appropriately in order to make the claim statutory. Any amendment to the claim would be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-19, and 21-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Collar et al. (US 2005/0008348).

Regarding claim 18, Collar et al. disclose a computer-readable medium ([0008]; [0009]) comprising data representing a first video sequence (Fig. 5; Fig. 8) and a number of associated data each having a corresponding command (Fig. 5; Fig. 8; Figs. 9; also see “Response to Arguments” above), the command comprising: a first instruction for linking or jumping to a second video sequence (Fig. 6; Fig. 9; also see "Response to Arguments" above); and a second instruction, independent from the first instruction, for deriving a first value, wherein the first value varies depending on the command (Fig. 6; Fig. 9; also see "Response to Arguments" above).

Regarding claim 19, Collar et al. also disclose the data representing the video sequence comprises a plurality of data structures, each of the data structures being associated with a respective one of the corresponding commands (Fig. 8).

Regarding claim 21, Collar et al. also disclose the associated data comprises at least a command to influence the operation of at least one of the navigation engine and the presentation engine ([0051]; Fig. 2; Fig. 3; Fig. 8).

Regarding claim 22, Collar et al. also disclose the corresponding commands comprise respective navigation commands associated with data representing a further video sequence ([0051]; [0052]).

Regarding claim 23, Collar et al. also disclose the navigation commands are executable to retrieve the data representing the further video sequence and to cause the presentation engine to derive the further video sequence from the data representing the further video sequence ([0051]).

Regarding claim 24, Collar et al. also disclose a register arranged to store a time varying value during the output of the video sequence by the presentation engine ([0058]).

Regarding claim 25, Collar et al. also disclose the register is a GPRM register set to counter mode ([0058]).

Regarding claim 26, Collar et al. also disclose data to derive a first value, in response to an event, from one of the corresponding commands ([0046]-[0048]).

Regarding claim 27, Collar et al. also disclose the means to derive the first value further comprises means to derive the first value from an initialization value ([0046]).

Regarding claim 28, Collar et al. also disclose the initialization value is generated by a random number generator ([0009]).

Regarding claim 29, Collar et al. also disclose means to generate a sequence of values from the first value ([0048]).

Regarding claim 30, Collar et al. also disclose the means to generate the sequence comprises means to generate the sequence with a predeterminable number of non-repeating values ([0048]).

Regarding claim 31, Collar et al. also disclose the means to generate the sequence comprises a calculator that is configured to perform an iterative operation to calculate the values of the sequence ([0048]).

Regarding claim 32, Collar et al. also disclose iterative operation calculates $r_{i+1} = (ar_i + b) \bmod c$, where a and b are constants, r_1 is the first value and c is a prime ([0048], a=1, b = -1, and c = 5, $r_1 = N_i = S = 6$ in [0054]).

Regarding claim 33, Collar et al. also disclose the medium is a DVD ([0046]).

Regarding claim 36, Collar et al. also disclose each of said second instructions comprises a command to alter a value of a GPRM of a DVD player ("RND GPRM12 49" in Fig. 9a).

Regarding claim 37, Collar et al. also disclose the first instruction and second instruction are each executable in response to a user event ([0066]; Fig. 2; Fig. 3).

Regarding claim 38, Collar et al. also disclose the first instruction and second instruction are each executable to the same user event ([0066]; Fig. 2; Fig. 3; "both instructions are grouped together in the same command" in Fig. 9a).

Regarding claim 39, Collar et al. also disclose each of the number of associated data is associated with a button command ([0066]), and for a given associated data, the first instruction and second instruction are each executable in response to the said button command being executed by a user ([0066]; Fig. 9a).

Regarding claim 40, Collar et al. also disclose instructions to use said first value to derive a random number ("Mov GPRM11 GPRM12", "Comp GPRM12>32", and "Comp GPRM12>16" in Fig. 9a).

Regarding claim 41, Collar et al. also disclose the steps of reading the computer-readable medium ([0038]) and generating a random number by executing one of said second instructions ("RND GPRM12 49" in Fig. 9a; [0054]).

Regarding claim 42, Collar et al. disclose an audiovisual product ([0038]) comprising audiovisual data representing audiovisual content ([0038]; Fig. 2; Fig. 5; Fig.8), the audiovisual data having a navigational structure (Fig. 3) and comprising a sequence of audiovisual data associated with a plurality of commands (Fig. 2; Fig. 5; Fig. 8), wherein invocation of one of the plurality of commands results in navigation to a first location in the navigational structure and results in a first value being derived (Figs. 9; [0066]; also see "Response to Arguments" above), and wherein said first value varies according to the one of said plurality of commands executed (Fig. 6; Fig. 9; also see "Response to Arguments" above), and said first location is the same for each of said plurality of commands (LinkPGN instructions having the same first location for each of plurality of commands in Figs.9; also see "Response to Arguments" above).

Regarding claim 43, Collar et al. also disclose the audiovisual product comprises a DVD ([0009]; [0038]).

Regarding claim 44, Collar et al. also disclose instructions for generating a random number on the basis of the first value ("Mov GPRM11 GPRM12", "Comp GPRM12>32", and "Comp GPRM12>16" in Fig. 9a).

Claim 45 is rejected for the same reason as discussed in claim 42.

Regarding claim 46, Collar et al. disclose a DVD product ([0009]; [0038]), comprising: first data representing a video sequence, comprising of a plurality of data groups (Fig. 8); second data representing a plurality of commands, each command associated with one of the plurality of data groups ("Pre-commands" and "Post-commands" Fig. 8), wherein each command comprises a first instruction resulting in said video sequence being discontinued ("LinkPGN instructions" in Fig. 9a) and a second, different, instruction for deriving a number in response to a said command being executed ("RND GPRM12 49" in Fig. 9a), said number varying according to said command (see "Response to Arguments" above), wherein said command is executable in response to a user event ([0066]); and instructions for deriving a random number at least partly on the basis of said value ("Mov GPRM 11 GPRM 12" in Fig. 9a).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18-19, 21-23, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamkin et al. (US 2004/0220791) and Setogawa et al. (US Patent 6,246,402).

Regarding claim 18, Lamkin et al. disclose a computer-readable medium ([0008]; [0009]) comprising data representing a first video sequence ([0106]; [0253]); and a number of associated data each having a corresponding command ([0253]); and data to derive a first value from one of the corresponding commands in response to an event ([0253]; [0254]; [0402]; [0403]).

However, Lamkin et al. do not disclose the command comprising: a first instruction for linking or jumping to a second video sequence; and a second instruction, independent from the first instruction, for deriving a first value, wherein the first value varies depending on the command.

Setogawa et al. disclose a command comprising: a first instruction for linking or jumping to a second data sequence ("Jump" in Fig. 29B); and a second instruction, independent from the first instruction, for deriving a first value, wherein the first value varies depending on the command (“Mov” in Fig. 29B).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the command comprising first and second instructions disclosed by Setogawa et al. into the computer-readable medium disclosed by Lamkin et al. in order to convert high-level language commands into low-level language commands that are executable by machines to perform the commands.

Regarding claim 19, Lamkin et al. also disclose the data representing the video sequence comprises a plurality of data structures, each of the data structures being associated with a respective one of the corresponding commands ([0253]).

Regarding claim 21, Lamkin et al. also disclose the associated data comprises at least a command to influence the operation of at least one of the navigation engine and the presentation engine ([0253]; [0254]).

Regarding claim 22, Lamkin et al. also disclose the corresponding commands comprise respective navigation commands associated with data representing a further video sequence ([0253]; [0254]; [0402]; [0403]).

Regarding claim 23, Lamkin et al. also disclose the navigation commands are executable to retrieve the data representing the further video sequence and to cause the presentation engine to derive the further video sequence from the data representing the further video sequence ([0253]; [0254]; [0402]; [0403]; [0101]; [0106]; [0107]).

Regarding claim 33, Lamkin et al. also disclose the medium is a DVD ([0089]).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lamkin et al. (US 2004/0220791) and Setogawa et al. (US Patent 6,246,402) as applied to claims 18- above, and further in view of Kitamura et al. (US Patent 5,703,997).

Regarding claim 20, see the teachings of Lamkin et al. and Setogawa et al. as discussed in claim 18 above. However, the proposed combination of Lamkin et al. and Setogawa et al. does not disclose the plurality of data structures comprises a plurality of Group-of-Pictures structures.

Kitamura et al. disclose the plurality of data structures comprises a plurality of Group-of-Pictures structures (Fig. 8; Fig. 15; column 4, lines 45-46).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the plurality of Group-of-Pictures structures disclosed by Kitamura et al. into the data processing disclosed by Lamkin et al. and Setogawa et al. in order to make the video stream compatible with existing standards, e.g. MPEG standard, in which the structures of Group-of-Pictures are employed.

Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collar et al. (US 2005/0008348) as applied to claims 18- above, and further in view of Kitamura et al. (US Patent 5,703,997).

Regarding claim 20, see the teachings of Collar et al. as discussed in claims 18 above. However, Collar et al. do not disclose the plurality of data structures comprises a plurality of Group-of-Pictures structures.

Kitamura et al. disclose the plurality of data structures comprises a plurality of Group-of-Pictures structures (Fig. 8; Fig. 15; column 4, lines 45-46).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the plurality of Group-of-Pictures structures disclosed by Kitamura et al. into the data processing disclosed by Collar et al. in order to make the video stream compatible with existing standards, e.g. MPEG standard, in which the structures of Group-of-Pictures are employed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is (571)270-1116. The examiner can normally be reached on IFT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/
Examiner, Art Unit 2621

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621